UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>31 October 2007</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-17</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-17</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>11 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>11/5/2007</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

CONTINUED EXAMINATION UNDER 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

10/31/2007 has been entered.

RESPONSE TO ARGUMENTS

2.   Applicant's arguments with respect to claims 1-17 have been considered but are

moot in view of the new ground(s) of rejection. Objection to claims 9 and 14 are

withdrawn. Rejection of claims 5 and 9 under 35 U.S.C. 112 second paragraph are

withdrawn. Currently, claims 1-17 are pending for examination.

3.   In response to applicant's arguments, on pages 11-12, regarding the amended

independent claims 1, 8 and 14 rejected under 35 U.S.C. 103(a) that the combination of

references does not teach/suggest the claimed feature of a first storage destination

memory stores processed image data and a second destination stores image data that

is not processed; applicant's arguments have fully been considered, but are not found to

be persuasive.

The examiner respectfully disagree, as the claimed feature is taught/suggested

by Utsunomiya, more specifically, having a first storage destination memory (Fig. 3, ref.

3012) storing the processed input job image data (Fig. 3, ref. 3013) and a second

storage destination memory (Fig. 3, ref. 1032) storing the input job image data that is

not processed (Fig. 3, ref. 3007).

4.   In response to applicant's argument, on page 13, 2nd paragraph, applicant

appears to be arguing that Terajima is nonanalogous art, because Terajima does not

teach the storing of image data in the external memory unit; applicant's argument have

fully been considered, but are not found to be persuasive.

Please note that a prior art reference must either be in the field of applicant's

endeavor or, if not, then be reasonably pertinent to the particular problem with which the

applicant was concerned, in order to be relied upon as a basis for rejection of the

claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir.

1992). In this case, not only are Utsunomiya and Terajima are analogous art because

they are from same field of endeavor as both are associated with the function of printing

data; Terajima is also in the field of applicant's endeavor, which a multi-function

peripheral including a facsimile (e.g. fax) function and a printer function (Applicant's

Specification, [0040] and Terajima, col. 2, ll. 31-51).

5.   In responding to applicant's arguments, on page 13, last paragraph to page 14,

1st paragraph, regarding the amended independent claims 1, 8 and 14 rejected under

35 U.S.C. 103(a) would not have been obvious because "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness;" applicant's arguments have fully been considered, but are not found to be persuasive.

The examiner respectfully disagree, because of the following:

Utsunomiya teaches a printing apparatus have a primary memory device (semiconductor memory such as RAM) and a secondary memory device (hard drive), wherein data stored in the memory devices is printed.

Utsunomiya does not teach storing and printing of a first copy in the primary memory device, and storing and printing of a second and following copies in the secondary memory device.

Kisaki teaches a printing apparatus comprising a first copy being stored in and outputted from a semiconductor memory and a second and following copies are stored in and outputted from a hard disk drive.

Since there is a design incentive to utilize the faster semiconductor memory for more efficient data transferring while utilizing the hard disk drive having a larger volume for data storing, it would have been obvious to one ordinary skilled in the art of printing apparatus to incorporate Kisaki's printing method utilizing semiconductor memory and hard disk drive into Utsunomiya's printing apparatus.

Utsunomiya and Kisaki teach that the printing apparatus have an expansion

memory that can be mounted, wherein data stored in the expansion memory are

printed.

Utsunomiya and Kisaki do not teach detecting whether the expansion memory is

mounted or not, and selecting a corresponding memory location for data printing base

on said detecting.

Terajima teaches a printing apparatus comprising detecting whether an

expansion memory is properly mounted or not, and selecting a corresponding memory

location for data printing base on said detection.

Since there is a design incentive to increase the data transferring integrity by

ensuring the proper connection of the expansion memory before data transferring, it

would have been obvious to one ordinary skilled in the art of printing apparatus to

incorporate Terajima's detection and selection for data printing into Utsunomiya and

Kisaki's printing apparatus.

I. ACKNOWLEDGEMENT OF REFERENCES CITED BY APPLICANT

6.   As required by **M.P.E.P. 609(C)**, the applicant's submissions of the Information

Disclosure Statement dated November 05, 2007 is acknowledged by the examiner and

the cited references have been considered in the examination of the claims now

pending. As required by **M.P.E.P 609 C(2)**, a copy of the PTOL-1449 initialed and dated

by the examiner is attached to the instant office action.

II. REJECTIONS BASED ON 35 U.S.C. 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7.   Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said job image data" in line 10. There is insufficient antecedent basis for this limitation in the claim.

As per claim 1, it appears which "job image data" the applicant is referring to, the examiner will assume "said input job image data" for the current examination.

II. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Utsunomiya (US Patent 6,999,186) in view of Kisaki (US Pub.: 2003/0035142), and further in view of Terajima (US Patent 5,309,251).

9.   As per claim 1, <u>Utsunomiya</u> teaches a data outputting printer, comprising:

a processing memory (Fig. 2, ref. 1037 and Fig. 3, ref. 1037, 3008, 3009) that

processes (i.e. processes by converting input job image data to raster images) input job

image data for a job (col. 5, ll. 40-67);

an output unit (printer 1030 of Fig. 3) that, after processing of the input job image

data sent to said processing memory, outputs (e.g. prints) said processed input job

image data during a first output session (col. 8, ll. 28-40), wherein the first output

session is resulted from either the implementing the multiple-copy print or the single-

copy print as the first copy is printed on the printer;

a mounting unit for mounting an expansion memory (external memory 1043 of

Fig. 2-3) used for image data storage (Fig. 3, ref. 1043, 3011, 3013), wherein the hard

drive is mounted as external memory for storing print data (col. 5, ll. 5-16); and

a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that,

controls said input job image data is to be output multiple times (e.g. multiple-copy print)

(col. 5, ll. 5-32; col. 6, ll. 20-44 and col. 8, ll. 28-40),

stores the input job image data in a storage destination memory (e.g.

either the internal memory RAM 1037 or the external hard disk 1043 of Fig. 2-3)

for a second output session and beyond (col. 5, l. 40 to col. 6, l. 44), wherein the

input job image data is stored in either the internal memory RAM or the external

hard disk for printing the first copy, the second copy and beyond, and

wherein the storage destination memory comprises a first storage

destination memory (Fig. 3, ref. 3012) storing the processed input job image data

(Fig. 3, ref. 3013) and a second storage destination memory (Fig. 3, ref. 1032)

storing the input job image data that is not processed (Fig. 3, ref. 3007).

Utsunomiya does not teach the data outputting printer, comprising:

a detection unit that detects whether or not the expansion memory is mounted to

said mounting unit; and the controller that,

selects, one of the first storage and second storage destination memories

for storing the image data of the second output session and beyond based on the

detection of said detection unit ... reads out said image data from the selected

storage destination memory and executes printing for the second copy onward

via said output unit.

Kizaki teaches an image forming apparatus such as a digital copier, a facsimile

machine, a printer, and a scanner ([0002]) comprising a data input/output control unit

(Fig. 6, ref. 600) implementing multiple copies as a first copy is stored in and output

from a primary memory device (semiconductor memory) (Fig. 6, ref. 606) and a second

and following copies are stored in and output from the secondary memory device (hard

disk drive: HDD) (Fig. 6, ref. 607) ([0117]-[0118]);

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Kizaki's printing of the first copy from the primary

memory device and the second and following copy from the secondary memory device

into Utsunomiya's printer for the benefit of providing efficient transfer of image data

concerning the primary memory device while using the second memory device having a

larger volume as image memory (Kizaki, [0014]) to obtain the invention as specified in

claim 1. The resulting combination of the references further teaches the data outputting

printer, comprising:

the controller that,

prints out the first copy from the primary memory device (e.g. the second

storage destination memory) as the input job image data is stored in the primary

memory device and is outputted via the output unit; and

prints out the second and following copies from the secondary memory

device (e.g. first storage destination memory) as the input job image data is to be

stored in the secondary memory device for the second and following copies and

is outputted via the output unit.

Terajima teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not a external memory

(Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14);

and

a controller (Fig. 1, ref. 101) that selects the storing of the received

communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the

sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the

external memory is detected to be present, the received communication data is to be

stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received

communication data from either the internal RAM processing memory or the external

memory, depending where it was stored earlier (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Terajima's sensor into Utsunomiya and Kizaki's printer

for the benefit of ensuring that the external memory is properly connected before data

transferring increasing the data transferring integrity (Terajima, col. 5, ll. 3-9), and

further more, also provide the benefit of reducing the cost of the printer as memory is

saved (Terajima, col. 1, l. 52 to col. 2, l. 5) to obtain the invention as specified in claim 1.

The resulting combination of the references further teaches data outputting printer,

comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external

memory (i.e. expansion memory) has been mounted to said mounting unit; and

the controller selecting to store image data in either the primary memory device

or the secondary memory device for the second output session and beyond based on

the sensor's detection, such that,

if the sensor detects that the external memory is mounted, prints out the

first copy from the primary memory device (e.g. second storage destination

memory) as the image data is stored in the primary memory device, and stores

the image data in the primary memory device into the secondary memory device

(e.g. first storage destination memory) for implementing the print out of the

second and following copies from the secondary memory device; and

if the sensor detects that the external memory is not mounted, stores the

input job image into the primary memory (e.g. second storage destination

memory) and prints out the second and following copies utilizing the image data

stored in the primary memory (e.g. second storage destination memory); and

therefore, printing (e.g. reads out) the input job image data from the

selected storage destination memory and executes printing for the second copy

onward via the printer unit.

10. As per claim 2, Utsunomiya, Kizaki and Terajima teach all the limitations of claim

1 as discussed above, where Terajima further teaches the data outputting printer

comprising wherein when said detection unit detects that the expansion memory is

mounted, said controller stores the processed input job image data used for said

second output session onward in said expansion memory (i.e. external memory), and

when said detection unit detects that the expansion memory is not mounted, said

controller stores the input job image data used for said second output session onward in

said processing memory (i.e. internal RAM) (Terajima, Fig. 3 and col. 3, l. 11 to col. 4, l.

14), wherein the input job image data is stored into the external memory only if the

sensor detects the presence of the external memory, if the external memory is not

present, the input job image data is stored in the internal RAM.

11. As per claim 3, Utsunomiya, Kizaki and Terajima teach all the limitations of claim

2 as discussed above, where Utsunomiya and Terajima further teach the data

outputting printer comprising wherein if it is detected by said detection unit that the expansion memory is mounted, said controller outputs the input job image data processed in said processing memory as is for the first output session (Utsunomiya, Fig. 2-3 and Terajima, col. 3, l. 11 to col. 4, l. 14), wherein the communication result is first stored in the RAM (processing memory) then later transferred to the external memory and prior to printing, if the external memory is removed, the data is printed from the RAM.

12.   As per claim 4, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 1 as discussed above, where Terajima further teaches the data outputting printer comprising wherein said controller determines the storage format for the input job image data used for the second output session onward in accordance with the results of the detection by said detection unit (Terajima, Fig. 6 and col. 5, ll. 29-50), wherein if data is stored on the external memory, the data would require proper formatting by the serial interface circuit for performing serial communication for data between the control unit and the external memory.

13.   As per claim 5, Utsunomiya, Kizaki and Terajima teach all the limitations of claim 4 as discussed above, where Terajima further teaches the data outputting printer comprising wherein the job is a print job sent from an external device, and when the mounting of an expansion memory is detected by said detection unit, said controller stores the processed input job image data in said expansion memory as image data

resulting from processing in said processing memory, and when the mounting of an

expansion memory is not detected by the detection unit, said controller stores the input

job image data in said processing memory in an original format existing prior to its

processing in said processing memory (Terajima, Fig. 6; col. 3, l. 11 to col. 4, l. 14 and

col. 5, ll. 29-50), wherein if the external memory is detected, the data is stored in the

external memory after being properly processed by being formatted for serial

communication and if the external memory is not detected, data is stored in the RAM

without implementing the serial formatting.

14.   As per claim 6, Utsunomiya, Kizaki and Terajima teach all the limitations of claim

1 as discussed above, where Utsunomiya further teaches the data outputting printer

comprising at least one compression/decompression unit (i.e. compression/expand unit)

that compresses data and decompresses compressed data (Utsunomiya, col. 2, ll. 8-67

and col. 7, ll. 22-32).

15.   As per claim 7, Utsunomiya, Kizaki and Terajima teach all the limitations of claim

6 as discussed above, where Utsunomiya further teaches the data outputting printer

comprising wherein said expansion memory stores data compressed by said at least

one compression/decompression unit (Utsunomiya, col. 2, ll. 8-67 and col. 7, ll. 22-32),

wherein data are compressed before being stored.

16.   As per claim 8, Utsunomiya teaches a data outputting printer, comprising:

a receiving unit (input/output module 3000 of Fig. 3) that receives print jobs of

input image data;

a processing memory (Fig. 2, ref. 1037 and Fig. 3, ref. 1037, 3008, 3009) that

processes (i.e. processes by converting input image data to raster images) the input

image data of print jobs received by said receiving unit (Fig. 3 and col. 5, ll. 40-67);

a printer unit (printer 1030 of Fig. 3) that prints the input image data after it has

been processed in said processing memory (col. 8, ll. 28-40);

a mounting unit used for mounting an expansion memory (external memory 1043

of Fig. 2-3) used for image data storage (Fig. 3, ref. 1043, 3011, 3013), wherein the

hard drive is mounted as external memory for storing print data (col. 5, ll. 5-16); and

a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that

control the print job includes multiple copies of identical images to be printed (e.g.

multiple-copy print) (col. 5, ll. 5-32; col. 6, ll. 20-44 and col. 8, ll. 28-40),

stores the input image data in a storage destination memory (e.g. either

the internal memory RAM 1037 or the external hard disk 1043 of Fig. 2-3) for a

second output session and beyond (col. 5, l. 40 to col. 6, l. 44), wherein the input

image data is stored in either the internal memory RAM or the external hard disk

for printing the first copy, the second copy and beyond,

wherein the storage destination memory comprises a first storage

destination memory (Fig. 3, ref. 1032) storing the input image data that is not

processed (Fig. 3, ref. 3007) and a second storage destination memory (Fig. 3,

ref. 3012) storing the processed input image data (Fig. 3, ref. 3013); and

reads out said image data from the storage destination memory and

performs output for the second output session onward using the printer unit (col.

5, l. 40 to col. 6, l. 44), as the stored image data is read out from the

corresponding storage destination memory and printed by the printer.

Utsunomiya does not teach the data outputting printer, comprising:

a detection unit that detects whether or not the expansion memory is mounted to

said mounting unit; and the controller that,

selects, one of the first storage and second storage destination memories

for storing the image data of the second output session and beyond based on the

detection of said detection unit ... reads out said image data from the selected

storage destination memory and executes printing for the second copy onward

via said output (printer) unit.

Kizaki teaches an image forming apparatus such as a digital copier, a facsimile

machine, a printer, and a scanner ([0002]) comprising a data input/output control unit

(Fig. 6, ref. 600) implementing multiple copies as a first copy is stored in and output

from a primary memory device (semiconductor memory) (Fig. 6, ref. 606) and a second

and following copies are stored in and output from the secondary memory device (hard

disk drive: HDD) (Fig. 6, ref. 607) ([0117]-[0118]);

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Kizaki's printing of the first copy from the primary

memory device and the second and following copy from the secondary memory device

into <u>Utsunomiya</u>'s printer for the benefit of providing efficient transfer of image data

concerning the primary memory device while using the second memory device having a

larger volume as image memory (<u>Kizaki</u>, [0014]) to obtain the invention as specified in

claims 1 and 8. The resulting combination of the references further teaches the data

outputting printer, comprising:

the controller that,

prints out the first copy from the primary memory device (e.g. the first

storage destination memory) as the input image data is stored in the primary

memory device and is outputted via the printer unit; and

prints out the second and following copies from the secondary memory

device (e.g. secondary storage destination memory) as the image data is to be

stored in the secondary memory device for the second and following copies and

is outputted via the printer unit.

<u>Terajima</u> teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not a external memory

(Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14);

and

a controller (Fig. 1, ref. 101) that selects the storing of the received

communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the

sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the

external memory is detected to be present, the received communication data is to be

stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received

communication data from either the internal RAM processing memory or the external

memory, depending where it was stored earlier (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Terajima's sensor into Utsunomiya and Kizaki's printer

for the benefit of ensuring that the external memory is properly connected before data

transferring increasing the data transferring integrity (Terajima, col. 5, ll. 3-9), and

further more, also provide the benefit of reducing the cost of the printer as memory is

saved (Terajima, col. 1, l. 52 to col. 2, l. 5) to obtain the invention as specified in claims

1 and 8. The resulting combination of the references further teaches data outputting

printer, comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external

memory (i.e. expansion memory) has been mounted to said mounting unit; and

the controller selecting to store image data in either the primary memory device

or the secondary memory device for the second output session and beyond based on

the sensor's detection, such that,

if the sensor detects that the external memory is mounted, prints out the

first copy from the primary memory device (e.g. first storage destination memory)

as the image data is stored in the primary memory device, and stores the image

data in the primary memory device into the secondary memory device (e.g.

second storage destination memory) for implementing the print out of the second

and following copies from the secondary memory device; and

if the sensor detects that the external memory is not mounted, stores the

input image into the primary memory (e.g. first storage destination memory) and

prints out the second and following copies utilizing the image data stored in the

primary memory (e.g. first storage destination memory); and

therefore, printing (e.g. reads out) the image data from the selected

storage destination memory and executes printing for the second copy onward

via the printer unit.

17.   As per claim 9, Utsunomiya, Kizaki and Terajima teach all the limitations of claim

8 as discussed above, where Utsunomiya and Terajima further teach the data

outputting printer comprising wherein when said detection unit detects that the

expansion memory is mounted, said controller stores the processed input image data

used for printing of a second copy onward in said expansion memory, and when said

detection unit detects that an expansion memory is not mounted, said controller stores

the input image data that is not processed and used for printing of the second copy

onward in said processing memory (Utsunomiya, Fig. 2-3 and Terajima, Fig. 3 and col.

3, l. 11 to col. 4, l. 14).

18.   As per claim 10, Utsunomiya, Kizaki and Terajima teach all the limitations of

claim 9 as discussed above, where Utsunomiya and Terajima further teach the data

outputting printer comprising wherein if it is detected by said detection unit that the

expansion memory is mounted, said controller prints out the first copy using the image

data processed in said processing memory (Utsunomiya, Fig. 2-3 and Terajima, col. 3, l.

11 to col. 4, l. 14).

19.   As per claim 11, Utsunomiya, Kizaki and Terajima teach all the limitations of

claim 8 as discussed above, where Terajima further teaches the data outputting printer

comprising wherein said controller determines a storage format for image data used for

the second copy onward in accordance with the results of the detection by said

detection unit (Terajima, Fig. 6 and col. 5, ll. 29-50), wherein if data is stored on the

external memory, the data would require proper formatting by the serial interface circuit

for performing serial communication for data between the control unit and the external

memory.

20.   Claims 12-13 repeat the limitations of claims 6-7 and are therefore rejected

accordingly.

21.   As per claims 14, Utsunomiya teaches a printer, comprising:

        a receiving unit (input/output module 3000 of Fig. 3) that receives print jobs;

        a work memory (RAM 1037 of Fig. 3) that includes a storage area (Fig. 3, ref.

1032, 3007) used for storing input image data, as well as a processing area (Fig. 3, ref.

3008, 3009) used for processing (process by converting) image data to raster images

for received print jobs (Fig. 3 and col. 5, ll. 40-67);

a printer unit (printer 1030 of Fig. 3) that prints image data after it has been

processed in said processing area during (col. 5, l. 40 to col. 6, l. 44);

a mounting unit used for mounting an expansion memory (external memory 1043

of Fig. 2) used for data storage (HD 1043 of Fig. 3), wherein the hard drive is mounted

as external memory for storing print data (col. 5, ll. 5-16);

a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that,

where the print job is a job in which multiple copies of identical images are to be printed

(e.g. multiple-copy print) (col. 5, ll. 17-32; col. 6, ll. 20-44 and col. 8, ll. 28-40), printing

out a fist copy, a second copy and onward of the processed image data in said work

memory or from an expansion memory; and

a storage destination memory (e.g. either the internal memory RAM 1037 or the

external hard disk 1043 of Fig. 2-3) comprises the expansion memory (Fig. 3, ref. 3012)

storing the processed image data (Fig. 3, ref. 3013) and the work memory (Fig. 3, ref.

1032) storing the input image data that is not processed (Fig. 3, ref. 3007);

Utsunomiya does not teach the printer, comprising:

a detection unit that detects whether the expansion memory has been mounted

to said mounting unit; and the controller that, (i) and when said detection unit detects

that the expansion memory is mounted, ... and (ii) when said detection unit detects that

the expansion memory is not mounted ... .

Kizaki teaches an image forming apparatus such as a digital copier, a facsimile

machine, a printer, and a scanner ([0002]) comprising a data input/output control unit

(Fig. 6, ref. 600) implementing multiple copies as a first copy is stored in and output

from a primary memory device (semiconductor memory) (Fig. 6, ref. 606) and a second

and following copies are stored in and output from the secondary memory device (hard

disk drive: HDD) (Fig. 6, ref. 607) ([0117]-[0118]).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Kizaki's printing of the first copy from the primary

memory device and the second and following copy from the secondary memory device

into Utsunomiya's printer for the benefit of providing efficient transfer of image data

concerning the primary memory device while using the second memory device having a

larger volume as image memory (Kizaki, [0014]) to obtain the invention as specified in

claim 14. The resulting combination of the references further teaches the printer

comprising the controller that

prints out the first copy from the primary memory device (i.e.

semiconductor memory such as the work memory) as the processed image data

is stored in the primary memory device; and

prints out the second and following copies from the secondary memory

device (i.e. external memory such as the HDD) as the processed image data is to

be stored in the secondary memory device for the second and following copies.

Terajima teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not a external memory

(Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14);

and

a controller (Fig. 1, ref. 101) that selects the storing of the received

communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the

sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the

external memory is detected to be present, the received communication data is to be

stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received

communication data from either the internal RAM processing memory or the external

memory, depending where it was stored earlier (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Terajima's sensor into Utsunomiya and Kizaki's printer

for the benefit of ensuring that the external memory is properly connected before data

transferring increasing the data transferring integrity (Terajima, col. 5, ll. 3-9), and

further more, also provide the benefit of reducing the cost of the printer as memory is

saved (Terajima, col. 1, l. 52 to col. 2, l. 5) to obtain the invention as specified in claim

14. The resulting combination of the references further teaches the printer comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external

memory (i.e. expansion memory) has been mounted to said mounting unit;

the controller that,

when the sensor detect that the external memory is mounted, prints out

the first copy from the primary memory device (i.e. semiconductor memory such

as the work memory and the internal RAM) as the image data is stored in the

primary memory device, and

stores the image data in the primary memory device into the secondary memory

device for implement the print out of the second and following copies from the

secondary memory device (i.e. external memory such as the external HDD); and

when the sensor detects that the external memory is not mounted, prints

out the second and following copies utilizing the image data stored in the primary

memory.

22.   As per claim 15, Utsunomiya, Kizaki and Terajima teach all the limitations of

claim 14 as discussed above, where Utsunomiya further teaches the data outputting

printer comprising at least one compression/decompression unit that compress image

data input from said processing area, decompress compressed image data and output

decompressed image data to said processing area (Utsunomiya, col. 2, ll. 8-67 and col.

7, ll. 22-32), since data are compressed before being stored, said data must also be

decompressed before being printed.

23.   As per claim 16, Utsunomiya, Kizaki and Terajima teach all the limitations of

claim 15 as discussed above, where Utsunomiya further teaches the data outputting

printer comprising wherein said expansion memory stores image data compressed by

said at least one compression/decompression unit (Utsunomiya, col. 2, ll. 8-67 and col.

7, ll. 22-32), wherein data are compressed before being stored.

24.   As per claim 17, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of

claim 8 as discussed above, where <u>Utsunomiya</u> further teaches the data outputting

printer comprising the processing memory is the first storage destination (<u>Utsunomiya</u> ,

Fig. 3, ref. 1032, 3007) and the expansion memory is the second storage destination

(<u>Utsunomiya</u> , Fig. 3, ref. 3012, 3013).

III. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the

application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, claims 1-17 have received a final action on the

merits.

b. DIRECTION OF FUTURE CORRESPONDENCES

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is

(571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

IMPORTANT NOTE

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 13, 2007   Chun-Kuan (Mike) Lee
                                              Examiner
                                              Art Unit 2181

                                              ALFORD KINDRED
                                              SUPERVISORY PATENT EXAMINER